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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Ryo Sato

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EXAMINER

AGUSTIN, PETER VINCENT

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/624,892	Applicant(s) SATO ET AL.	
	Examiner P. Agustin	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 9 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 8-13 are now pending.

Election/Restrictions

2. Applicant's election with traverse of Species (a) (Figures 1-5) in the reply filed on August 10, 2006 is acknowledged. The Applicant submits that claims 8-13 are readable on the elected species. The traversal is on the ground(s) that claim 8 is generic to all species. This is not found persuasive because claim 8 recites, e.g., calculating a reference position and a reference tilt angle in accordance with a separation value, which feature is not shown in the embodiment of Figures 1-5.

The requirement is still deemed proper and is therefore made FINAL.

3. The amendment filed on August 10, 2006 presenting only claims drawn to a non-elected invention would be non-responsive under MPEP § 821.03. As noted above, the remaining claims are not readable on the elected invention because the embodiment of Figures 1-5 does not show at least the claimed feature of calculating a reference position and a reference tilt angle in accordance with a separation value. However, in the interest of advancing the prosecution of this application, this has been constructively treated as an election of Species (b) (Figures 6-13), which embodiment reads on claims 8-13.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Priority

5. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
7. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter, i.e., in claim 8, line 14: the term "optional region". See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
9. Claims 11-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 11-13 recite the limitation "said predetermined region". There is insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 8 & 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muramatsu (US 6,160,772) in view of Yasuda et al. (US 6,661,415).

In regard to claim 8, Muramatsu discloses a tilt servo system (Figure 1) for correcting a tilt angle between an objective lens (36) provided in an optical pickup (16) and an information storage medium (12), said system comprising: a moving device (inherent element that moves pickup 16 in the radial direction) for moving the pickup in the radial direction of the information storage medium; and a control device (96) for calculating a reference position of the pickup on the information storage medium (see Figure 4, step P3) as well as a reference tilt angle (“tilt error signal” in step P5) in a region through which the pickup has moved from the reference position, in accordance with a separation value which comprises a distance between the information storage medium and the objective lens in focusing, and based on a distance through which the pickup has moved, wherein the control device further detects a relative tilt angle of the information storage medium (“tilt amount – tilt error signal” in step P5) which is a difference between the reference tilt angle and an actual tilt angle in an optional region through which the pickup has moved from the reference position.

However, Muramatsu does not disclose: in regard to claim 8, a phase correction device for adjusting a phase of a light beam emitted from a light source and incident on the information storage medium through the objective lens; and a control device that drives the phase correction device in accordance with tilt correction quantities corresponding to relative tilt angles.

Yasuda et al. disclose: in regard to claim 8, a phase correction device (abstract: “liquid crystal element”) for adjusting a phase of a light beam emitted from a light source and incident on the information storage medium through the objective lens, and a control device (“driver for

Art Unit: 2627

the liquid crystal element”) that drives the phase correction device in accordance with tilt correction quantities corresponding to relative tilt angles. It would have been obvious to one of ordinary skill in the art at the time of invention by the Applicant to have applied the teachings of Yasuda et al. to the tilt servo system of Muramatsu, the motivation being to provide an optical head that improves aberration correction performance (column 1, lines 1-12).

In regard to claim 11, Muramatsu discloses that said predetermined region comprises a region corresponding to a lead-in area of said information storage medium (understood from “initial setting command”, column 6, lines 14-28).

Allowable Subject Matter

12. Claims 9 & 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Claims 12 & 13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ogasawara (US 6,370,095) discloses imparting a phase difference to a laser beam passing through a liquid crystal element in order to cancel wavefront aberration caused by tilt.

Shimamoto et al. (US 6,754,145) disclose a tilt control unit for using a sum signal as an index to control the relative tilt between the disk and the head so as to cause the index to approach an extreme value.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to P. Agustin whose telephone number is 571-272-7567. The examiner can normally be reached on Monday-Friday 9:30-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A. L. Wellington can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

P. Agustin
Art Unit 2627


ANDREA WELLINGTON
SUPERVISORY PATENT EXAMINER